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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,023	04/07/2004	Guangqiang Jiang	A369-USA	9230
24677 7590 04/13/2007 ALFRED E. MANN FOUNDATION FOR SCIENTIFIC RESEARCH PO BOX 905 SANTA CLARITA, CA 91380			EXAMINER SAVAGE, JASON L	
			ART UNIT 1775	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/13/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/821,023

Applicant(s)

JIANG ET AL.

Examiner

Jason L. Savage

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13, 31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13, 31 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114 was filed in this application after a decision by the Board of Patent Appeals and Interferences, but before the filing of a Notice of Appeal to the Court of Appeals for the Federal Circuit or the commencement of a civil action. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 3-30-07 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 32 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 32, line 7, recites said component assembly formed by a brazing process. It is unclear if Applicant means for the limitation to be an intended treatment that will be performed on the claimed component assembly at some future time or if the claimed assembly has been subjected to a brazing process which would change the filler material from the dual layer/laminate structure to an alloy from the brazing process. For the purposes of Examination the claim limitation has been treated as being drawn an

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intended future treatment since a component assembly which has been subjected to a brazing process would have a drastically different microstructure than the those recited in claims 1-13 and 31 and would thus be considered withdrawn as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-12 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (US 6,722,002).

Chang teaches a brazing filler materials comprising laminated foil layers which are suitable for use in bonding metal component parts consisting of Ti, Fe or Ni based alloys (col. 2, ln. 38-45 and col. 5, ln. 41-56). Chang further teaches a brazed component assembly comprising a 316 stainless steel metal part bonded to a composite filler material comprising two outer foil layers of nickel and an inner foil core layer of titanium (col. 6, ln. 52-57). Chang also teaches that titanium metal parts can be bonded to other metal parts by employing the brazing filler material to form a composite assembly (col. 6, ln. 65-67).

Chang does not exemplify an embodiment wherein a component assembly comprises a stainless steel part bonded to a titanium part via a filler layer comprising nickel and titanium foils. However, since Chang teaches bonding a titanium part with the filler comprising nickel and titanium layers (col. 6, ln. 58-64) and further teaches

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bonding a stainless steel part with a similar filler comprising nickel and titanium layers (col. 6, ln. 52-57); it would have been within the purview of one of ordinary skill in the art to have recognized that one could form a composite wherein a stainless steel part was bonded to a titanium part via the recited filler layer with a reasonable expectation of success. Absent a teaching of the criticality or showing of unexpected results from the claimed assembly composite, it does not provide a patentable distinction over the prior art.

Regarding the limitation that the assembly be suitable for use in living tissue, since the assembly of Chang has the same structure and same materials as that claimed by Applicant, it would have been just as suitable for use in living tissue as that claimed by Applicant. Furthermore, the limitation that the assembly is suitable for use in living tissue is merely an intended use. Statements of intended use are not considered patentably distinguishing limitations. See Ex parte Masham 2 U.S.P.Q.2d 1647, 1648. In re Thuau 135 F.2d 344, 47 U.S.P.Q. 324. Application of Hack, 245 F.2d.246, 114 U.S.P.Q. 161.

Regarding the limitation in claim 1 that the filler material is "for bonding by brazing" the stainless steel part and titanium part, the claim limitation is drawn to an intended use. Statements of intended use are not considered patentably distinguishing limitations. See Ex parte Masham 2 U.S.P.Q.2d 1647, 1648. In re Thuau 135 F.2d 344, 47 U.S.P.Q. 324. Application of Hack, 245 F.2d.246, 114 U.S.P.Q. 161. Furthermore, Chang teaches that the multi-layer foil is used in brazing processes to join

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metal parts forming an assembly (col. 6, ln. 52-64). As such, Chang meets the intended use that the filler material would bond the metal parts by brazing.

Regarding claim 2, an assembly comprising the filler having two outer layers of nickel as described by Chang (col. 6, ln. 52-57) would meet the claim limitation of a nickel foil layer being adjacent to the titanium part.

Regarding claim 3, the Ni/Ti/Ni filler structure taught by Chang (col. 6, ln. 52-57) would meet the claim limitation.

Regarding claim 4, although Chang teaches the preferred placement of Ti layers in the brazing filler is somewhere in the middle layer; Chang clearly teaches that the constituents of the brazing alloys can be arranged in any sequence and that other arrangements other than the preferred arrangement with Ti in the middle may be useful in specific circumstances (col. 5, ln. 57-67). As such, it would have been obvious to one of ordinary skill in the art to have arranged the alloy layers in any sequence, including sequences wherein the outer layers were Ti wherein the specific arrangement of material layers would be determined by the specific circumstances in which the assembly were to be used. Absent a teaching of the criticality or showing of unexpected results, the claimed sequence of material layers does not provide a patentable distinction over the prior art.

Regarding claim 5, Chang teaches the stainless steel part is a 300 series stainless steel such as 316 (col. 6, ln. 52-57).

Regarding claims 6 and 8, although Chang is silent to the use of 316L stainless steel and Ti-6Al-4V, it would have been within the purview of one of ordinary skill in the

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art to have recognized that a wide variety of stainless steel and titanium alloys could be employed in the component assembly of Chang with a reasonable expectation of success. Absent a teaching of the criticality or showing of unexpected results from the use of the claimed alloys, they would merely be a design choice and thus do not provide a patentable distinction over the prior art.

Regarding claim 7, Chang teaches the titanium part may be a titanium alloy (col. 6, ln. 58-67).

Regarding claim 9, Chang teaches the filler reacts with and bonds to the metal parts (col. 6, ln. 6-14).

Regarding claim 10, Chang teaches the filler thickness of the nickel and titanium composite filler is typically 0.010 inches thick and that the thickness may be further reduced by cold rolling (col. 6, ln. 52-57). Chang further teaches that the brazing temperature is about 950°C (col. 7, ln. 1-5 and col. 8, ln. 7-19) which is less than the melting point of the titanium and stainless steel parts but greater than a melting point of the Ni-Ti eutectic formed from the filler material.

Regarding claims 11-12, the claims are drawn to article, not the method of making. Absent a teaching of the criticality or showing of unexpected results due to forming the filler foil layers by the claimed methods, they would not provide a patentable distinction over the prior art. Furthermore, it would have been obvious to have used nickel and titanium foils formed by any known method for the filler in the assembly of Chang with a reasonable expectation of success.

Regarding claim 31, the laminated filler of Chang would facilitate brazing of the parts just as the filler claimed by Applicant.

Regarding claim 32, the limitation that said component assembly formed by a brazing process is drawn to an intended use. Statements of intended use are not considered patentably distinguishing limitations. The laminated filler of Chang would be suitable for use in a brazing process to form a bonded assembly comprising the components in the claimed component assembly.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al. (US 6,722,002) in view of Cusano et al. (US 3,994,430).

Chang teaches what is set forth above however it is silent to at least one of the filler layers being formed from metallic particulate. Cusano teaches a method of bonding metals to other metal substrates (col. 2, ln. 32-33). Cusano further teaches that a bonding agent may be used to bond the metal part to the other metal part and that the agent may be in particulate form (col. 3, ln. 20-30). Although it is recognized that Cusano teaches that the bonding is a direct bond wherein no intermediate layer of solder metal or the like is employed, Cusano is merely provided as a teaching that it is known in the art that bonding materials for bonding metal parts can be provided in particulate form. It would have been obvious to one of ordinary skill in the art to have recognized that bonding agents or layers such as the filler layers of Chang could be employed in a variety of forms including as layers comprising particulates with a reasonable expectation of success.

It is well settled that the test of obviousness is not whether the features of one reference can be bodily incorporated into the structure of another and proper inquiry should not be limited to the specific structure shown by the references, but should be into the concepts fairly contained therein, and the overriding question to be determined is whether those concepts would suggest to one of ordinary skill in the art the modifications called for by the claims, *In re Van Beckum*, 169 USPQ 47 (CCPA 1971), *In re Bozek*, 163 USPQ 545 (CCPA 1969); *In re Richman*, 165 USPQ 509 (CCPA 1970); *In re Henley*, 112 USPQ 56 (CCPA 1956); *In re Sneed*, 218 USPQ 385 (Fed. Cir. 1983).

In response to the issue whether the reference is nonanalogous art, it has been held that the determination that a reference is from a nonanalogous art is twofold. First, one decides if the reference is within the field of the inventor's endeavor. If it is not, one proceeds to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved, *In re Wood*, 202 USPQ 171, 174. In the instant case, both Chang and Cusano are generally drawn to bonding metal parts through the use of bonding assisting agents or materials.

Response to Arguments

Applicant's arguments filed 3-30-07 have been fully considered but they are not persuasive.

Applicant essentially states that since claims 1 and 31-32 recite a brazing technique the claims should now be found to be allowable. However, as was recited in


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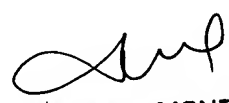
the rejections above, the limitation is drawn to an intended use which would not patentably distinguish the claims from the prior art of Chang. Furthermore, Chang teaches that the multi-layer foil is used in brazing processes to join metal parts forming an assembly (col. 6, ln. 52-64).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason L. Savage whose telephone number is 571-272-1542. The examiner can normally be reached on M-F 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jason Savage
4-10-07


JENNIFER MCNEIL
SUPERVISORY PATENT EXAMINER
4/10/07